

NOTES BY THE EDITOR.

ICE IN KENNEBEC RIVER.

Mr. William I. Holt, of Gardiner, Me., sends the following measurements of ice and snow taken weekly on Monday at 2.30 p. m., at three points, A, B, C, about one-half mile above the bridge between Gardiner and Randolph, on the Kennebec River. The point B where the measurement was taken was nearly in the middle of the stream; the points A and C were about 50 feet distant, and respectively west and east of B, or directly across the stream. The depth of snow and the thickness of ice are given in inches.

Date.	Depth of snow.				Thickness of ice.			
	A.	B.	C.	Average.	A.	B.	C.	Average.
1896.								
December 7.....	None.*	.....	.....	.....	None.*	.....	.....	.....
December 14.....	None.†	.....	.....	.....	None.†	.....	.....	.....
December 31.....	None.	.....	.....	.....	7	6	7	6.6
December 28.....	None.	.....	.....	.....	8.5	9.7	10.8	9.6
1897.								
January 4.....	None.	.....	.....	.....	8.5	9.7	10.8	9.6
January 11.....	None.	.....	.....	.....	7	7.5	8	7.5
January 18.....	None.	.....	.....	.....	8	9	9	8.7
January 25.....	5	7	6.0	6.0	12.2	13	12.5	12.6
February 1.....	8.5	7	7.0	7.5	14	15	15	14.7
February 8.....	3	3.5	4.0	3.5	14.5	16.5	17	16.0
February 15.....	3.5	1.5	2.0	2.0	14	15	16	15.0
February 22.....	2.5	4	3.0	3.0	15.5	15	15	15.2
March 1.....	7	9	5.0	7.0	15	15	15	15.0
March 8.....	7	7	5.5	6.5	16	14	16	15.3
March 15.....	7	4	7.0	6.0	14	16	16	15.3
March 22.....	Traces.	.....	.....	.....	15	10	13	12.6
March 29.....	Traces.†	.....	.....	.....	9	8	4	7.0
April 5.....	Traces.‡	.....	.....	.....	.....	.....	.....	.....

* River has been frozen over but opened again. † Very little ice near the shore. ‡ Very soft; river open in a number of places. § Ice went out Sunday, April 4, 1897.

FIRE AT HURON, S. DAK.

About 2 a. m. March 22 fire broke out in the Alliance Block in which the Weather Bureau office at Huron, S. Dak., was located, and, in consequence of the destruction of the building, a new office was immediately secured in Jeffries' Block. The installation of instruments and the occupation of the office proceeded as fast as practicable, and everything was in complete working order by the 1st of April. The regular daily weather telegrams were, however, only interrupted for one day. The Monthly Summary for February, 1897, and the Climate and Crop Service annual report for 1896, just ready to mail, were destroyed. The manuscript work for the book of means and several minor pieces that were in daily use were not in the fire-proof vault and were therefore consumed, but the greater part of the records were safely preserved in the vault.

THE STEREOSCOPIC STUDY OF CLOUDS.

Any arrangement by which the determination of the altitude and velocity of a cloud can be done quickly by one person so as to avoid the uncertainties attending every attempt to get two distant observers to identify and simultaneously observe the same point must be considered of advantage in the study of the clouds. Several methods of accomplishing this object are suggested in the Editor's treatise on Meteorological Apparatus and Methods, including the simultaneous photography and the measurement of the resulting pictures by the "projector," devised by Professor Stokes. Evidently two such photographs can be combined together by the stereoscope into one mental picture, wherein the relations of all the parts are clearly perceived. Almost, but not quite, the inverse result is obtained if, instead of twin cameras and simultaneous photographs at neighboring locations, we take two pictures with the same camera a few seconds apart at the same location. These may be combined together in a stereoscope and the differences due to the motions of the

clouds produce pseudostereoscopic phenomena as decided as those due to the difference of location of two cameras.

There have been so few actual attempts to realize these stereoscopes of clouds that we desire to call wide attention to the following note by Mr. John Tennant, published in Nature for March 25, Vol. LV, p. 486:

Since 1894 I have been making stereoscopic studies of clouds with wide separation of the camera.

Beyond the direct interest of the pictures the method has a practical value.

1. In the measure of the distance of clouds by photogrameters, it is usual to mark by a pin prick the corresponding points of the two prints. Through the vagueness of cloud outlines it is easy to err in doing this, but any error thus made is easily detected by the stereoscope.

I have recently learned that this method has been already suggested by Mr. M. J. Amsler-Laffon, of Schaffhausen, but I do not know whether it has been previously put to a practical test.

2. My photographs were taken by visible signal without electric connection, some of them with a base of fully 500 yards, and the clear stereoscopic definition seems to show that in ordinary cases the expensive electric connection of the cameras may be dispensed with without affecting the value of the plates for purposes of measurement.

MEXICAN CLIMATOLOGICAL DATA.

Through the kind cooperation of Señor Mariano Bárcena, Director, and Señor José Zendejas, vice-director, of the Central Meteorologico-Magnetic Observatory, the monthly summaries of Mexican data are now communicated in manuscript, in advance of their publication in the *Boletín Mensual*; an abstract translated into English measures is here given in continuation of the similar tables published in the MONTHLY WEATHER REVIEW during 1896. The altitudes occasionally differ from those heretofore published, but no reason has been assigned for these changes. The barometric means have not been reduced to standard gravity, but this correction will be given at some future date when the pressures are published on our Chart III.

Mexican data for March, 1897.

Stations.	Altitude.	Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
Aguascalientes.....	Feet. 6,362	Inch. 28.80	° F. 84.6	° F. 39.2	° F. 63.6	% 59	Inch. 0.79	n. ne.	nc.
Baronisse (Coahuila).....	5,118	.....	83.1	43.8	64.9	.....	.....	.....	.....
Colima.....	.....	.....	.....	.....	78.8	.....	.....	.....	.....
Colima (Seminario).....	1,600	28.27	93.7	51.1	76.3	55	T.	ws.w.	sw.
Culliacan.....	112	29.75	95.0	57.2	74.7	59	1.52	w.	nc.
Jalapa.....	4,787	25.49	95.0	54.0	68.9	71	1.10	n.	.....
Leon.....	5,901	24.28	88.5	44.1	65.8	40	0.98	ss.w.	sw.,ws.w.
Magdalena (Sonora).....	4,948	.....	.....	.....	60.6	.....	.....	n.	.....
Mazatlan.....	25	29.94	90.4	62.2	73.3	73	0.60	nw.	sw.
Merida.....	50	29.89	101.8	64.9	83.8	60	0.17	se.	se.
Mexico (Obs. Cent.).....	7,472	23.04	84.7	47.1	65.1	40	0.01	sw.	sw.
Mexico (E. N. de S.).....	.....	23.07	89.1	41.0	62.2	50	0.01	nw.	.....
Monterrey.....	1,636	28.63	98.6	43.7	71.6	64	0.07	nc.	nc.
Morelia (Seminario).....	6,401	23.26	87.8	49.3	64.4	47	T.	ss.w.	w.
Oaxaca.....	5,164	25.04	95.0	47.8	73.2	54	0.08	s.	sw.
Parras (Coahuila).....	3,966	.....	88.3	50.0	68.4	.....	.....	sw.	.....
Puebla (Col. Cat.).....	7,112	23.34	85.8	44.2	66.4	49	0.00	e.	w.
Saltillo.....	5,399	24.80	88.0	42.6	65.8	52	0.00	sw.	n.,sw.
Silao.....	6,063	24.25	88.5	52.5	68.5	54	0.13	ws.w.	sw.
Toluca.....	8,612	21.85	80.8	36.0	59.4	45	0.00	ws.w.	.....
Torreón (Coahuila).....	3,720	.....	88.9	55.1	71.8	.....	.....	sw.	.....
Trejo (H. de S., Gto.)*	6,011	.....	.....	.....	.....	.....	0.19	.....	.....
Zapotlan (Seminario).....	5,125	25.08	87.6	48.2	68.9	46	0.09	ss.e.	sw.

In the above table the altitudes given in the manuscript received from Mexico differ from those previously given in the cases of Aguascalientes, Colima (Seminario), Mexico (Obs. Cent.), and Saltillo.

LONG-CONTINUED METEOROLOGICAL RECORDS.

Great interest attaches to a long-continued meteorological record by any one observer. A station whose record runs back for twenty-five years becomes a medium of comparison for all the surrounding territory and one of fifty years establishes the normal values for that section of country. On the other hand, one must be careful not to draw too many fine

conclusions from any one such record, for in the course of fifty years barometers deteriorate and thermometers change their scale of corrections, to say nothing of the breakages and renewals that will happen to every instrument. Even the simple rain gauge is liable to be changed, and especially do its records suffer from the fact that the growth of trees and shrubbery, the erection of buildings, and possible changes of location, such as are almost sure to be made when the observer thinks he can improve the exposure—all contribute greatly to change the catch of the rain gauge. These inevitable changes increase the difficulty of ascertaining whether there has been any secular variation in climate. Such variation, if any, is certainly always very small and usually far less important than the variations due to the changes in instruments and their exposures. Although, therefore, the continuity of a record by one observer at the same station for a long period is partially broken up by these changes, still there is always a feeling that his ancient and his recent records are more nearly comparable among themselves than would be the case with records made by different observers at different locations in his neighborhood. There is, moreover, a great advantage in having long records of cloudiness, direction and force of the wind, the number of rainy days, the direction of the clouds, frequency of thunderstorms and auroras, and other miscellaneous phenomena not generally recorded by means of instruments and in reference to which the habits of the observer are, therefore, most important. The great publications on American climatology, such as "The Winds," by Coffin, "Temperature" and "Precipitation," by Schott, contain numerous records maintained by single individuals at the same station for twenty or thirty years and a few cases that are much longer than these, the most remarkable being the record by Prof. P. Cleaveland of the temperature at Brunswick, Me., from January, 1807, to December, 1859, and that of Dr. Holyoke at Salem, Mass., from January, 1786, to December, 1828. Continuous records for even longer periods have been accomplished by two or more successive observers, as in the case of a professor and his successor, or a father and his daughters, or the husband and wife. Thus, we have a record of the rainfall at New Bedford, Mass., for sixty-one years kept by S. Rodman and E. T. Tucker. It would be a valuable contribution to climatology if our voluntary observers and the directors of State weather services would acquaint themselves with the locations in their neighborhood where temperature and rainfall records have been previously kept and would stimulate or provide for the renewal of those records for a period of time long enough to establish clearly the relation between the climates at those spots and at the neighboring locations where records are now kept.

We desire also to commend to our observers the wisdom of the action recently taken by Mr. W. R. Springer, Voluntary Observer at Santa Cruz, Cal., who states that he and his son Ralph hope to make a long record for that locality, and that to that end, although his son is only 14 years old, yet he desires to be appointed local observer, and by beginning at so early an age and by having the advantage of his father's oversight expects that the future records will be homogeneous with the earlier ones. Mr. Schott's tables of precipitation publish the rainfall record kept at Santa Cruz by A. L. Taylor and J. H. Hoadley from November, 1873, to December, 1874. Mr. W. R. Springer's record extends from June, 1890, to February, 1897: Mr. Ralph Springer's record begins with March,

1897, and we hope that the people of Santa Cruz will see that it is maintained for a long time. Owing to the great irregularities in the local distribution of rainfall and the great varieties of soil on which the rain falls, it is desirable that there be several rain stations in every township. Those countries which are best supplied with rainfall stations frequently have more to the unit of area than the United States; in the Island of Barbadoes Dr. Walcott organized for the use of Governor Rawson in his studies on the sugar crop a system having more than one station to every square mile.

A MONUMENT TO BUYS-BALLOT.

At the suggestion of Dr. Maurits Snellen, Superintendent of the Royal Dutch Meteorological Institute, it is proposed to erect a monumental bust of the late Professor Buys-Ballot, as a memorial to that eminent meteorologist, who was the founder of the Royal Dutch Meteorological Institute and one of the most eminent promoters of meteorological science. The International Committee appointed to solicit and receive contributions to defray the expense of the proposed memorial monument have issued a circular, in which they say:

As the sphere of his activity and studies extended far beyond the limits of his native country, they are convinced that their idea will not only be favorably received in Holland, but also in foreign countries, by scientific men who have known and appreciated his merits.

The Editor takes pleasure in announcing that any contributions for the Buys-Ballot monument may be sent to Prof. Willis L. Moore, Chief of the Weather Bureau, who will forward to the proper authorities.

Monuments acquire a greater value in proportion as they represent the popular voluntary expression of high appreciation, and certainly no one was more worthy to receive such a mark of esteem than Buys-Ballot, whose name is inseparably connected with the so-called Buys-Ballot law defining the relation between the wind and the pressure.

May we not hope that at some, not too distant, future, Americans will also honor those who have laid the foundations of our own progress in this science; Espy, Redfield, Maury, Loomis, Ferrel, and Joseph Henry form a brilliant galaxy whose deeds should be commemorated.

SUGGESTIONS TO OBSERVERS.

Under the above heading in the MONTHLY WEATHER REVIEW for February the voluntary observers were requested to inscribe upon their monthly reports some indication as to their rules or habits in observing and recording both thunderstorms and auroras. One observer in reply states that he "records thunderstorms every time that he hears the thunder himself or is told that some other person has heard it, and no matter whether it rains or not at his station. Also that he records auroras whenever he happens to see them before retiring, about 9.30 p. m." This is precisely the character of information that was desired. The Editor very carefully avoided imposing or suggesting any new labors. The further suggestions that were made by him were, as he stated on page 55, "for the use of those special observers who aim to make a specially complete record of thunderstorms and auroras." Nothing was added to the labors of the regular voluntary observers, but there are throughout the world many who devote special attention to these phenomena, and for the sake of uniformity the items given on page 56 were published for their information and guidance. We are pleased to learn that our suggestions have been favorably received by so many observers.

METEOROLOGICAL TABLES.

By A. J. HENRY, Chief of Division of Records and Meteorological Data.

For text descriptive of tables and charts see page 20 of REVIEW for January, 1897.